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**World Forum for Harmonization of Vehicle Regulations**

**Working Party on Automated/Autonomous and Connected Vehicles***

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Item 14 (a) of the provisional agenda
**Remaining activities from the former Working Party on Brake and Running Gear (handover period): Tyres**

# Proposal for amendments to UN Regulation No. 106 (Tyres for agricultural vehicles and their trailers)

## Submitted by the expert from the European Tyre and Rim Technical Organisation (ETRTO)**

The text reproduced below was prepared by the experts from the European Tyre and Rim Technical Organisation (ETRTO) amending Regulation No. 106. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters if not specified differently.

* Formerly: **Working Party on Brakes and Running Gear (GRRF)**.

** In accordance with ECE/TRANS/274, para 52, with ECE/TRANS/WP.29/1139, para. 33 and with the programme of work of the Inland Transport Committee for 2014–2018 (ECE/TRANS/240, para. 105 and ECE/TRANS/2014/26, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

GE.18-11813(E)

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# I. Proposal

*Paragraph 1.*, amend to read:

"1. **Scope**

~~This Regulation covers new pneumatic tyres* designed primarily, but not only, for agricultural and forestry vehicles (power-driven vehicles in category T), agricultural machines (power-driven and trailed) and agricultural trailers, and identified by speed category symbols corresponding to speeds of 65 km/h (speed symbol "D") and below.~~

~~It does not apply to tyre types designated primarily for other purposes, such as:~~

~~(a) Earth-moving equipment;~~

~~(b) Industrial and lift trucks.~~

**1.1. This UN Regulation applies to new pneumatic tyres* designed primarily, but not only, for agricultural and forestry vehicles in categories T, R and S[1].**

**1.2. This UN Regulation does not apply (UN approvals to this UN Regulation may not be granted) to the following tyres:**

**1.2.1. Tyres identified by speed category symbols corresponding to speeds higher than 65 km/h (i.e. speed category symbols higher than "D").**

**1.2.2. Tyres designated primarily for other purposes, such as:**

**(a) Earth-moving equipment;**

**(b) Industrial and lift trucks."**

*Paragraph 3.1.9.2. (former)*, renumber and amend to read:

"3.1.~~9.2.~~**10.1.** The inscription 'I-3' for implement tyres with traction tread as identified in Annex 5, Tables 5 and 6."

*Annex 5, Table 5, Note 3*, amend to read:

"3. Overall diameters (D) in column (*) apply to tyres marked with classification code "I-3" – see paragraph 3.1.~~9.2.~~**10.1.** of this Regulation."

*Annex 5, Table 6, Note 3*, amend to read:

"3. Overall diameters (D) in column (*) apply to tyres marked with classification code "I-3" – see paragraph 3.1.~~9.2.~~**10.1.** of this Regulation."

*Annex 5, Table 7 (3 of 4)*, amend to read:

| *Tyre size designation*[5] | *Theoretical rim width code (A1)* | *Nominal section width (S1) (mm)* | *Overall diameter (D) (mm)* | *Nominal rim diameter (d) (mm)* |
|---|---|---|---|---|
| ... | ... | ... | ... | ... |
| ~~35~~36x16-17.5 | 10.5 | 406 | 914 | 445 |
| ... | ... | ... | ... | ... |

*Annex 7, Part E,* amend the table to read:

| *Speed (km/h)* | *Speed Category Symbol* | | | | |
|---|---|---|---|---|---|
| | *A2* | *A8* | | *D* | |
| | | *Constant load* | *Cyclic applications (+)* | *Constant load* | *Cyclic applications (+)* |
| 5 | + 11 | + 45 | + 67 (1) | **+67** | **+92 (1)** |
| 10 | 0 | + 25 | + 50 (2) | **+44** | **+73 (2)** |
| 15 | - 21 | + 13 | + 34 | **+30** | **+54** |
| 20 | - 24 | + 9 | + 23 | **+26** | **+42** |
| 25 | - 28 | + 6 | + 11 | **+22** | **+28** |
| 30 | - 32 | + 4 | + 7 | **+20** | **+23** |
| 35 | - 33 | + 2 | + 3 | **+18** | **+19** |
| 40 | - 34 | 0 | 0 | **+15** | **+15** |
| 45 | - 35 | - 4 | - 4 | **+12** | **+12** |
| 50 | - 37 | - 9 | - 9 | **+8** | **+8** |
| **55** | - | - | - | **+5** | **+5** |
| **60** | - | - | - | **+3** | **+3** |
| **65** | - | - | - | **0** | **0** |
| **70** | - | - | - | **-9** | **-9** |

"

## II. Justification

1. The modification of the scope structure is drafted in line with the example provided in Annex 2 in informal document WP29-175-03. In addition to this modification, the proposed amended scope refers to the vehicle categories S and R defined in the "Consolidated Resolution on the Construction of Vehicles (R.E.3), as follow:"

"2.6. Agricultural vehicles (Categories T, R and S)

2.6.1. "*Category T*" - means any motorised, wheeled or tracked agricultural or forestry vehicle having at least two axles and a maximum design speed of not less than 6 km/h, the main function of which lies in its tractive power and which has been especially designed to pull, push, carry and actuate certain interchangeable equipment designed to perform agricultural or forestry work, or to tow agricultural or forestry trailers or equipment; it may be adapted to carry a load in the context of agricultural or forestry work and/or may be equipped with one or more passenger seats.

2.6.2. "*Category R - Agricultural trailer*": means any agricultural or forestry vehicle intended mainly to be towed by a tractor and intended mainly to carry loads or to process materials and where the ratio of the technically permissible maximum laden mass to the unladen mass of that vehicle is equal to or greater than 3.0.

2.6.3. "*Category S - Interchangeable towed equipment*": means any vehicle used in agriculture or forestry which is designed to be towed by a tractor, changes or adds to its functions, permanently incorporates an implement or is designed to process materials, which may include a load platform designed and

constructed to receive any tools and appliances needed for those purposes and to store temporarily any materials produced or needed during work and where the ratio of the technically permissible maximum laden mass to the unladen mass of that vehicle is less than 3.0."

2. The change of the numbering is necessary for Paragraph 3.1.9.2. into 3.1.10.1. because para. 3.1.9.2. refers to implement tyres while para. 3.1.9. refers to forestry tyres. In Paragraph 3.1.10. refers to implement tyres hence it is deemed more appropriate to modify the paragraph number "3.1.9.2". to "3.1.10.1.". Following this modification, Notes 3 in Annex 5, Table 5 and Table 6 shall be amended.

3. The line in Annex 5, Table 7 (3 of 4) has been mistakenly introduced in Supplement 16 as 35x16 – 17.5 in place of 36x16 – 17.5 and this proposal is intended to fix the error.

4. The amendment (extension) of the table in Annex 7, Part E, is needed to account for the variation of load carrying capacity for tyres for construction applications (industrial tractors or skid-steers / mini-loaders) with speed category symbol "D".